


Kolak, Shari

From: Leo Brausch <Lbrausch@brauschenv.com>
Sent: Wednesday, February 17, 2016 11:26 AM
To: Kolak, Shari
Cc: Gahala, Amy, Kathryn Higbee, Darby, Thomas, Pennington, Andy, Gates, Ellyn, 'Franzetti, Susan M', paul.lake@illinois.gov, Bird, Kenneth J., Bussa, Brian J., Forney, James; Gerdenich, Michael, Jacob Larsen, Karen.Burke@mallinckrodt.com, Kovatch, Matthew A, Nichols, Curtis R., Montney, Paul, Petersen, Daniel W., Rinard, David, Stipe, Rod, Vondracek, James E.
Subject: LCCS -- Proposed Locations and Screened Intervals for Groundwater Monitoring Wells
Attachments: Proposed well locations.pdf

Shari,

As a follow-up to the discussions with USEPA and IEPA during our February 11, 2016 conference call to discuss the results of the Lake Calumet Cluster Site (LCCS) Phase 2 investigations results and the Phase 3 monitoring well installation plan, we have prepared the attached figure showing the locations of the proposed monitoring wells. The table below lists the proposed screened intervals and the rationale for the identified intervals. In selecting the screened interval for each of the proposed monitoring wells, we have attempted to respond to USEPA's request that the well screen for each well intersect the depth interval where the vertical aquifer profile sample showed the highest COPC concentrations.

Well I.D.	Proposed Total Depth (ft bgs)	Proposed Screened Interval (ft bgs)	Rationale for Screen Placement
MW-01	20	10 - 20	Highest benzene 14 - 16 ft bgs, screen installed to bracket the highest interval.
MW-02	22	12 - 22	Highest benzene 13 - 16 ft bgs, ammonia 18 - 21 ft bgs, screen installed to span both elevated sample intervals.
MW-03	19	9 - 19	Highest benzene and ammonia 17 - 19 ft bgs, screen installed to the top of the clay to bracket highest interval.
MW-04	16	6 - 16	Highest benzene at 6 - 9 and 10 - 13 ft bgs, screened from the water table across the highest intervals.
MW-05	20	10 - 20	Highest benzene 14 - 17 ft bgs, top of clay at 20 ft bgs. Screen installed to top of clay to bracket highest interval.
MW-06	22	12 - 22	Highest ammonia 16 - 18 ft bgs, screen installed to bracket the highest interval.
MW-07	22	12 - 22	Highest ammonia 13 - 16 and 19 - 22 ft bgs, screen installed to bracket highest intervals.
MW-08	23	13 - 23	Highest ammonia in HPT-14 at 14 - 17 and 20 - 22 ft bgs, screen installed to bracket highest intervals. Offset v to cover southern component of flow.
MW-09	16	6 - 16	Screened across the entire permeable zone identified in HPT data.
MW-10	14	4 - 14	Screened across the entire permeable zone identified in HPT data.
MW-11	22	12 - 22	Highest benzene 19 - 22 ft bgs, screened to bracket the highest intervals and avoid lower permeability unit starting at 22 ft bgs.

MW-12	23	13 - 23	Lower permeability compared to other locations, but HPT log indicates transmissive zones from 7 to 22 ft bgs. Screen selected to bracket the highest permeability zones.
MW-13	21	11 - 21	Highest benzene at 14 - 16 and 18 - 21 ft bgs. Screen selected to bracket highest intervals and highest permeability zones.

Notes:

HPT - Hydraulic Profiling Tool

MW - Monitoring Well

bgs - below ground surface

Please do not hesitate to contact me if you have questions regarding the proposed well locations or recommended screened intervals. Weather permitting, Arcadis is planning to mobilize to the LCCS on March 7, 2016 to begin well installation. Thanks.

Leo M. Brausch

Office: (704) 246-7266

Cell: (412) 720-8549

Fax: (980) 339-3017